

## Earthquakes and acute renal failure



The first and perhaps best description of acute renal failure occurred when patients were described as having anuria as a consequence of crush injuries during the Second World War. Since then, more 'medical' causes of acute renal failure have been described. Unfortunately, the original clinical picture has not disappeared, as is dramatically seen during wartime bombardment and major disasters such as earthquakes. The wartime and earthquake incidences pose particular problems to nephrologists, because the infrastructure at such times is often disastrously disrupted, leading to a chaotic and *ad hoc* response to dire emergencies. After the 1988 Armenian earthquake, the International Society of Nephrology established the Renal Disaster Relief Task Force to organize renal care in large disasters. In this issue, Vanholder *et al.* describe their experiences in a recent earthquake. Their article depicts the organizational aspects of the rescue intervention during the Kashmir earthquake in 2005. The earthquake occurred in a mountainous region, which made travel and communications especially difficult. Local teams had little experience in emergency treatment and in organization of mass disaster relief. However, once treatment was begun, the results were quite good. The experience

of Médecins Sans Frontières shows that international help has been instrumental in saving lives in time of war. The experience of the ISN group shows that help can be effective, but disasters are all local perturbations and hence all international help has to be tailored to the local circumstances. See page 17.

## Low vitamin D in CKD

The kidney is a central organ in the control of calcium and phosphorus metabolism; hence it is not surprising that anomalies in chronic kidney disease are prevalent. Many of these anomalies have been considered as risk factors in mortality. In this issue, Levin *et al.* report on a large study conducted on 1814 outpatients from 153 centers whose parathyroid hormone levels, vitamin D metabolites, and calcium and phosphate concentrations were measured, as well as their glomerular filtration rate. All studies were performed at a central laboratory. Almost half of the patients were diabetic. The results show, as expected, that as renal failure progressed there was an increase in (intact) parathyroid hormone levels and a decrease in 25(OH) and 1,25(OH)<sub>2</sub> cholecalciferol levels. Surprisingly, even patients with reasonable filtration rates had anomalies in these levels, though the incidence increased as the filtration rate declined. However, serum calcium and phosphate remained normal until the filtration was less than 40 ml/min. There has been increasing evidence that low vitamin D levels correlate with adverse effects in a variety of diseases, and the decline in the level of this hormone in the early stages of renal failure will need to be studied more thoroughly to identify the role of this decline in the etiology of many of the anomalies that characterize chronic kidney disease. See page 31.

## Variable mortality in renal failure

Mortality during renal replacement therapy is obviously greater than in the general population and is well known to be higher in less developed countries than in the industrial world. What is less known is the fact that even among the wealthy nations there is significant but consistent variation in mortality. The mortality of the general population in northern European countries is consistently greater than in southern Europe, and there even appears to be a gradient of mortality. What is the explanation for this strange phenomenon? Is it the celebrated sunshine of Italy and Spain? Their food? Or is it *la dolce vita* itself? Similarly, the mortality of patients during renal replacement therapy also shows a gradient of north being greater than south. In this issue, van Dijk *et al.* discuss the findings of their study that used a European database of 67 000 patients on renal replacement therapy. They document unequivocally the existence of this gradient, showing that it is highest in Sweden and lowest in the Basque country. They also found that mortality in the general population was higher in the north than in the south, but this trend was not as pronounced as the one in patients on renal replacement therapy. But correction for all-cause mortality did reduce the trend, though it did not eliminate it. Remarkably, adjustment for age widened the gap between north and south. Nor did adjustment for diabetes nullify the risk. Although the conclusion of the authors is that all-cause mortality plays a significant role, the reality is that the gradient in renal replacement mortality remains despite attempts at correction for obvious causes. See page 53.